

REMARKS

The Examiner rejected claims 58 and 84. Applicants have added no new claims. Claims 58 and 84 are under consideration.

Claim 58 has been amended to replace the language "PEF protein P45" with the language "an amino acid sequence of SEQ ID NO: 71."

Claim 84 has been amended to recite the language "(c) a degenerate variant of (a)" and to remove the language "or (b)." Claim 84 has also been amended to recite in part "the DNA comprising at least one of" Further, claim 84 has been amended to recite the language "a polypeptide possessing Polymerase Enhancing Factor (PEF) activity" to replace the language "a PEF activity." Finally, claim 84 has been amended to correct certain grammar and punctuation.

These amendments add no new matter. The changes to the amended claims are shown in the marked up version of the claims in the attached Appendix.

Claim Objection

The Examiner objects to claim 58, allegedly because "the claim should be amended to recite what PEF stands for; namely 'Polymerase Enhancing Factor.'" Office Action, page 2, section 2.

Without acquiescing to the objection, claim 58 has been amended to remove the language "PEF." Thus, the Examiner's objection is moot.

Rejections Under 35 U.S.C. § 112, Second Paragraph

The Examiner rejects claims 58 and 84 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Office Action, pages 2-3, sections 4 and 5.

Regarding claim 58, the Examiner alleges that it is unclear what is encompassed by PEF protein P45. Office Action, page 2, section 4. Without acquiescing to the rejection, and solely to expedite prosecution, claim 58 has been amended to replace the language "PEF protein P45" with the language "a sequence encoding an amino acid sequence of SEQ ID NO: 71" Thus, the rejection of claim 58 under 35 U.S.C. §112, second paragraph, is moot.

The Examiner also rejects claim 84 for the recitation of "[a] DNA encoding a PEF activity...." Office Action, pages 2 to 3, section 5. Specifically, the Examiner alleges that "[I]t is not clear what [a PEF activity] is, or how the DNA may 'encode an activity', as DNA encodes amino acids, not activities." *Id.*

Without acquiescing to the rejection, and solely to expedite prosecution, claim 84 has been amended to recite in part a "DNA encoding a polypeptide possessing Polymerase Enhancing Factor (PEF) activity" Claim 84 no longer recites a "DNA encoding a PEF activity." Thus, the rejection of claim 84 under 35 U.S.C. §112, second paragraph, is moot.

Applicants respectfully traverse the §112, second paragraph, rejections, and request reconsideration and withdrawal of them.

Rejections Under 35 U.S.C. §112, First Paragraph

The Examiner rejects claims 58 and 84 under 35 U.S.C. § 112, first paragraph, as allegedly not being enabled. Office Action, pages 3 to 5, sections 7 and 8.

The Examiner rejects claim 58 as allegedly not being enabled because the Examiner asserts that the specification does not "provide enablement for any PEF

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including partially synthetic copies or analogs of the naturally occurring polymerase."

Id., page 3, section 7.

Without acquiescing to the rejection, and solely to expedite prosecution, claim 58 has been amended to replace the language "PEF protein P45" with the language "a sequence encoding SEQ ID NO: 71." Thus, the rejection of claim 58 under 35 U.S.C. §112, first paragraph is moot.

The Examiner also rejects claim 84 as allegedly not being enabled because the Examiner asserts that the specification "does not reasonably provide enablement for degenerate variants" of one or more of SEQ ID NOS: 32-35, 82, 83, or 70. *Id.*, page 4, section 8. Further, the Examiner asserts that "[b]ecause a 'degenerate variant' of the sequences may encompass not only fragments of the SEQ ID NOS but also mutations of the sequences, the genus encompassed is huge." *Id.*, page 5, section 8.

Applicants believe that the Examiner misunderstands the term "degenerate variant." A degenerate variant of a given nucleotide sequence is understood by those of skill in the art to have at least some different nucleotides than the given nucleotide sequence, but encodes the same amino acid sequence as the given nucleotide sequence. This is possible because different 3 nucleotide codons may encode the same amino acid. Those codons which encode each amino acid are well known to those of skill in the art. One of skill in the art would know how to change one or more of SEQ ID NOS: 32-35, 82, 83, or 70 in a manner such that the resulting degenerate variant would still encode the same amino acid sequence. Thus, claim 84 is fully enabled under 35 U.S.C. §112, first paragraph.

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Applicants respectfully traverse the §112, first paragraph, rejections, and request reconsideration and withdrawal of them.

Rejections Under 35 U.S.C. § 102

The Examiner rejects claim 84 under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 5,474,796 to Brennan ("Brennan"). Office Action, page 6, section 10. Specifically, the Examiner alleges that "Brennan teaches every possible oligonucleotide having 10 nucleotides." *Id.* Further, the Examiner asserts that Brennan would "anticipate both a sequence hybridizable to the complement under stringent conditions (as the claim does not recite that the sequence which is hybridizable to the complement need be greater than 10 nucleotides long), as well as degenerate variants thereof, which may be of any length or composition." *Id.*

For a reference to anticipate the claimed invention under 35 U.S.C. § 102, the reference must describe the invention such that "each and every limitation is found either expressly or inherently" within it. *Transclean Corp. v. Bridgewood Services, Inc.*, 290 F.3d 1364, 1370, 62 USPQ2d 1865, 1869 (Fed. Cir. 2002) (citations omitted); see Manual of Patent Examining Procedure § 2131 (8th ed. 2001) ("MPEP") ("to anticipate a claim, the reference must teach every element of the claim").

Claim 84 recites in part "[a] DNA encoding a polypeptide possessing Polymerase Enhancing Factor (PEF) activity" Brennan does not teach a DNA encoding a polypeptide possessing Polymerase Enhancing Factor (PEF) activity. The Examiner has failed to establish that Brennan discloses a DNA encoding a polypeptide possessing Polymerase Enhancing Factor (PEF) activity.

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Accordingly, claim 84 is not anticipated by Brennan under 35 U.S.C. §102. Applicants respectfully request reconsideration and withdrawal of the §102 rejection.

Conclusion

The application is in condition for allowance. Applicants request the timely allowance of the application. In the event the Examiner does not find the claims allowable, Applicants request that the Examiner contact the undersigned at (650) 849-6676 to set up an interview.

Please grant any extensions of time required to enter this Amendment and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: March 27, 2003

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APPENDIX

↓ 58. (Amended) A DNA construct comprising a sequence encoding [PEF protein P45] an amino acid sequence of SEQ ID NO: 71 operably linked to an expression vector.

↓ 84. (Amended) A DNA encoding a polypeptide possessing Polymerase Enhancing Factor (PEF) activity, the DNA comprising at least one of (a) one or more of SEQ ID NO[.]: 32-35, 82, 83, or 70[.]; (b) a sequence hybridizable to the complement of one or more those sequences under stringent conditions; and [, or] (c) a degenerate variant of (a) [or (b)].

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